

PUBLICATION INDEX

FOR

SGS 2-22



K & L SOARING, LLC
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PUBLICATION INDEX	
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REVISION PAGE

Change Description	Revision Date
Publication Issuance	15 Feb 2010
Revised to Change to SA-001.6 from SA-001.5	20 June 2010
Revised to Change SA-102-33-1.2 from SA-102-33-1.1	2 Feb 2021

2-22 Publication List

Publication No.	Title	Date Issued	Revised/ Reissued
SSP-PH-1	SGU 2-22 C & E Flight – Erection - Maintenance Manual	Not Dated	

Note: The following list provides a complete catalog of publications available to support all models of the 2-22 Sailplane.

2-22 Service Bulletin Index

Number	Subject	Revision Date
102-22-100	Short Aileron Push Road	28 Oct 1947
102-22-101	Short Aileron Push Road - Replacement of Adjustable End	09 Jun 1949
102-33-1.2	Inspection of Fuselage Frame Structure	18 Jan 2021
SA-001.6	Inspection of Tow Release Assembly	29 Dec 2009
SA-003	Aerobatics in Schweizer Sailplane	25 Mar 1987
SA-005.1	Identification and Possible Replacement of Tow Release Arm	31 Jan 1988

2-22 Service Letter Index	
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Number	Subject	Revision Date
SL-102-3	Fire Potential of Fabric Covered Aircraft	15 Jan 1968

SERVICE BULLETIN NO. 100

The short aileron control push rods have been found to be subject to handling and wind damage. To avoid any dangerous conditions from this, the following instructions should be observed.

- (1) The push rod should be installed so that the adjustable clevis end is at the bell crank in the wing rather than at the aileron horn, if this has not already been done.
- (2) If the ship is tied down or otherwise subject to strong wind or gusts on the ground, suitable aileron chocks should be used.
- (3) In the normal pre-flight check the condition of this push rod should be checked. Any threaded ends that are bent should be replaced.

Observance of these rules should eliminate any problems from normal conditions. Additional bulletins will be sent to cover modification if they are found to be necessary.

Ernest Schweizer
Chief Engineer

SCHWEIZER AIRCRAFT CORPORATION

June 9, 1949
SGU 2-22

SERVICE BULLETIN NO. 101

Supplementing our Bulletin No. 100. It has been found that it is desirable to replace the adjustable end of the short aileron push rod 19B-120-9A by a fixed end. It has been found that visual inspection in the aircraft is not entirely satisfactory in detecting cracks due to service or handling damage.

- (1) It is recommended that these ends be replaced immediately to SAC Drawing 22A-132. SAC will furnish Part 22B-131-4 or will rework the rods at no charge if they are returned to the factory.
- (2) It is important that all brass be removed from the rod before attempting to weld in the replacement end. This should be done by properly qualified personnel.
- (3) If it is so desired a complete new rod can be furnished.

Ernest Schweizer
Chief Engineer

BULLETIN NO. SA-102-33-1.2*

DATE: January 18, 2021

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* Supersedes Service Bulletin SA-102-33-1.1

Dated June 20, 1988

SUBJECT: INSPECTION OF FUSELAGE FRAME STRUCTURE

AIRCRAFT AFFECTED:

Any SGU 2-22 Sailplanes

Any SGS 2-33 Sailplanes

TIME OF COMPLIANCE:

Shall be accomplished with next 25 hours of operation or within 90 days of issue date of this bulletin, whichever occurs first

Shall be accomplished every 5 or 10 years

PREFACE:

Field reports indicate that on the affected aircraft it is possible for moisture to enter the fuselage frame tubes. If not immediately detected, this moisture could accumulate in the frame structure and cause the frame tubes to corrode. This situation has been especially prevalent in aircraft which are frequently exposed to salt air, stored outside, and/or tied down by the tail wheel.

This Service Bulletin lists instructions to visually inspect the steel fuselage frame structure on the affected aircraft for indications of corrosion. If any indication of corrosion is found in the tubes, the tubes must be dimensionally inspected for sufficient wall thickness. Any tube whose wall thickness is less than the specified minimum wall thickness must be replaced.

Any aircraft that was factory overhauled by K&L Soaring must perform inspection every ten years

Any aircraft with field installed Fuselage Oiling Kit, part number 33021-001K, or previous initial compliance of this service bulletin are eligible for once every five-year compliance.

PROCEDURE 1:

Procedure 1 applies to any SGU 2-22 or SGS 2-33 aircraft without the Fuselage Oiling Kit, part number 33021-001K, installed or aircraft with the kit installed in the field.

- A. If FAA AD Note 76-13-11 Has NOT been previously performed, perform the following:
- a. In forward keel tube drill a Number 30 hole just ahead of the tow release slot.
 - b. In aft longerons, drill a number 30 hole approximately one inch forward of the weld cluster at the tail skid in the lower longerons.

- OR -

Install Fuselage Oiling Kit.

- B. If FAA AD Note 76-13-11 was previously performed, remove screw/rivets from above mentioned locations. If the aircraft has the Fuselage Oiling Kit installed, part number 33021-001K, remove the threaded plugs that were installed with the kit as opposed to the locations mentioned above, and check for moisture. **(This must be performed every five years after initial inspection).**

NOTE

As an alternate to x-raying tubes for internal corrosion in next step, holes may be drilled at splices (areas marked A on Figure 1) to visually inspect the ID of the tubes. The holes should be drilled about 45 degrees in the lower outboard quarter of the tube just ahead of the splices. In the tail wheel area, enlarge number 30 holes to 7/16 inch maximum. (Refer to Figure 1 for other allowable hole sizes.) If corrosion exists, measure the wall thickness as shown in Figure 2. Tubes which have a wall thickness which is less than the limit specified in Figure 1, must be replaced.

- C. If water drains from holes, x-ray inspect splices of longeron tubes that are marked A on Figure 1.
- D. If any corrosion is evident, proceed as follows:
- a. Drill holes at suspect locations. (Refer to Figure 1 for maximum allowable hole size)
 - b. Measure the wall thickness as shown in Figure 2.
 - c. If wall thickness is less than the required limit (specified in Figure 1), repair or replace the tube in accordance with AC 43.13

NOTE

If the front keel tube is excessively corroded, it is preferable to replace the tube rather than attempting a splice in this member. It is also recommended that the handle detail be replaced with the new detail in accordance with Schweizer blueprint 33010. If this is not accomplished, the weld cluster inside of the nose

bushing should be sealed with a waterproof caulking compound.

NOTE

It is possible to replace the aft longeron tube, but it requires additional preventive measures to maintain the alignment of the fuselage.

- E. Visually inspect longeron tubes for external corrosion from inside the aircraft.
- F. If external corrosion is evident, drill holes and measure wall thickness in accordance with steps D (a) and D (b) above. If wall thickness is less than required limit (specified on Figure 1), repair or replace tubes in accordance with AC 43.13.
- G. With a dull ice pick, perform a prod test at one inch intervals along entire length of the lower surface of the longerons from station 141.55 aft to station 285.00. If ice pick penetrates tube, drill holes and measure wall thickness as specified by steps D (a) and D (b) above. If wall thickness is less than the required limit (specified on Figure 1), repair or replace tubes in accordance with AC 43.13.

NOTE

The following anti-corrosion procedure is only required on a repetitive basis if internal corrosion is evident during the 5 year inspection. Perform steps H(a) through H(c) below after performing the initial inspection of the fuselage frame structure. Perform subsequent anti-corrosion treatments at the 5 year inspection if internal tube corrosion is evident during the inspection.

- H. Prior to plugging or patching holes at initial inspection, treat internal surface of lower longeron tubes with linseed oil as follows:
 - a. Thin linseed oil 15% to 20% parts by volume with turpentine. (approximately five parts linseed oil to one part turpentine)

NOTE

Ensure that the fuselage is level before pumping oil into tubes as specified in next step

- b. Use hand or power pump to fill longeron tubes with oil through holes drill for inspection. (Drill additional holes as required to fill tubes. Refer to Figure 3 for recommended hole locations and diameters)
- c. Allow oil to drain from tubes.

- I. Plug number 30 holes with either a drive screw or self-plugging blind rivet. (A water proof sealant must be applied when installing the screw or rivet).

- OR -

Re-install threaded plugs from Oiling Kit

- J. Plug the remaining inspection holes in accordance with AC 13.13-1A, Chapter 2, Section 2, Figure 2.6.
- K. Record compliance with this Service Bulletin in the Aircraft Log Book.

PROCEDURE 2:

Procedure 2 applies to any SGU 2-22 or SGS 2-33 aircraft with Fuselage Oiling Kit, part number 33021-001K, which was factory installed by K&L Soaring.

- A. Remove the threaded plugs that were installed with the kit and check for moisture. **(This must be performed every 10 years after factory installation)**
- B. If water drains from plugs perform pressure check of fuselage.

Pressure Check (Upper and Lower Longerons)

1. Reinstall all plugs except behind rear seat in upper longeron
 2. Install a pressure check gauge similar to what is shown in Figure 4 in upper longeron behind rear seat
 3. Using compressed air fill fuselage up to 30 psi. Wait 1 hour and then refill fuselage to 30 psi
 4. Wait 6 hours. If fuselage pressure is below 15 psi the fuselage fails pressure check and K&L Soaring must be contacted before returning aircraft to service.
- C. Reinstall threaded plugs from oiling kit
 - D. Record compliance with this Service Bulletin in the Aircraft Log Book

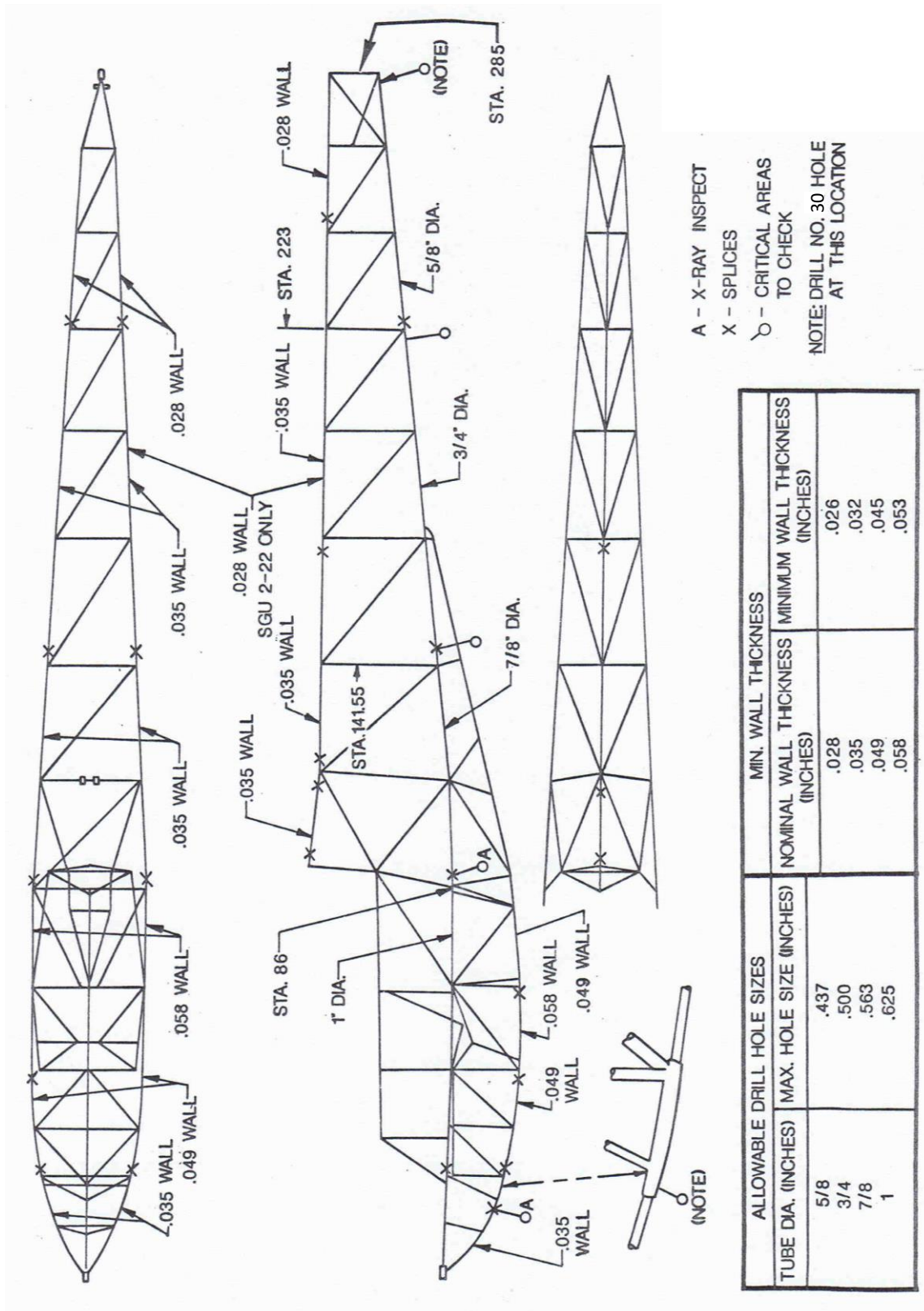
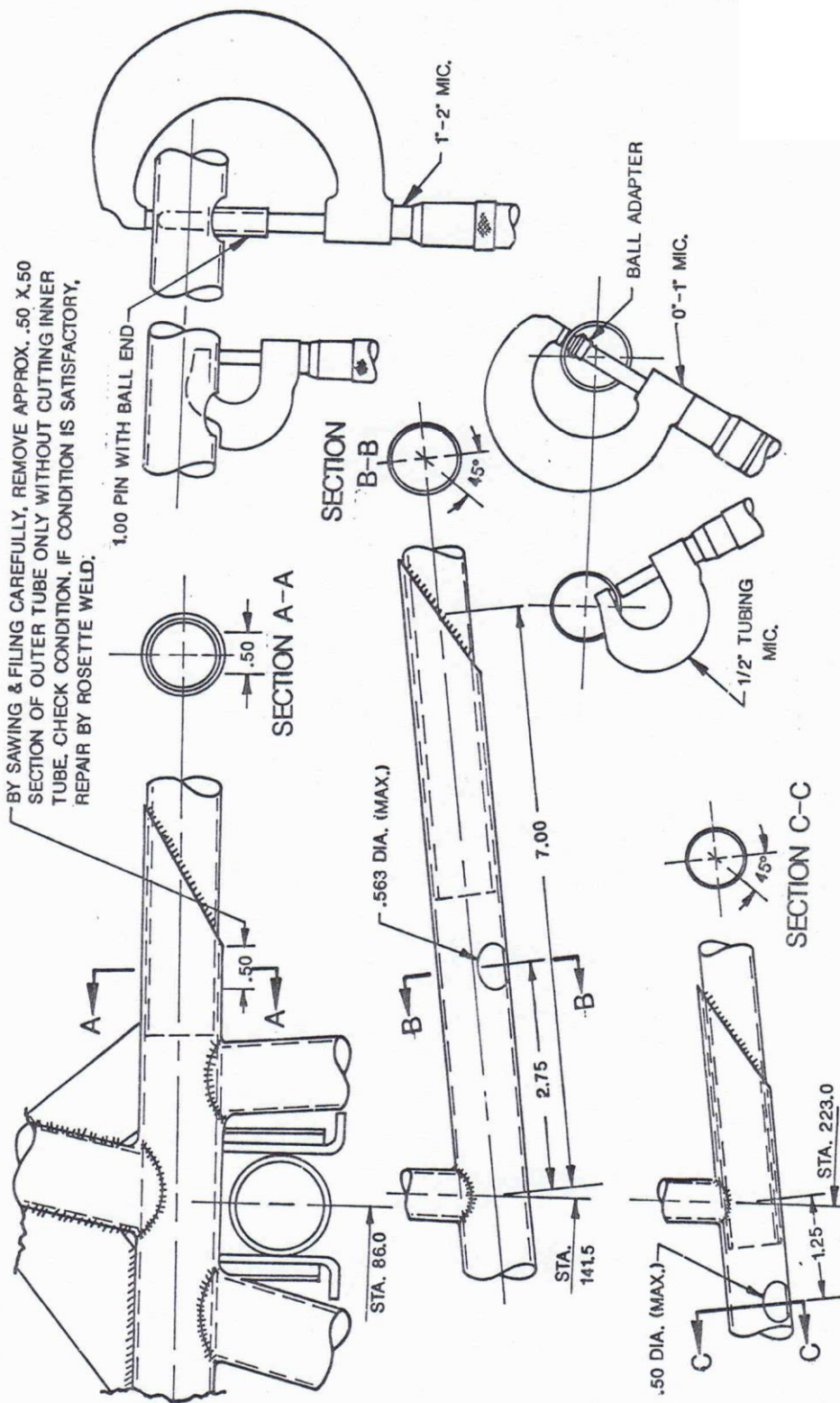
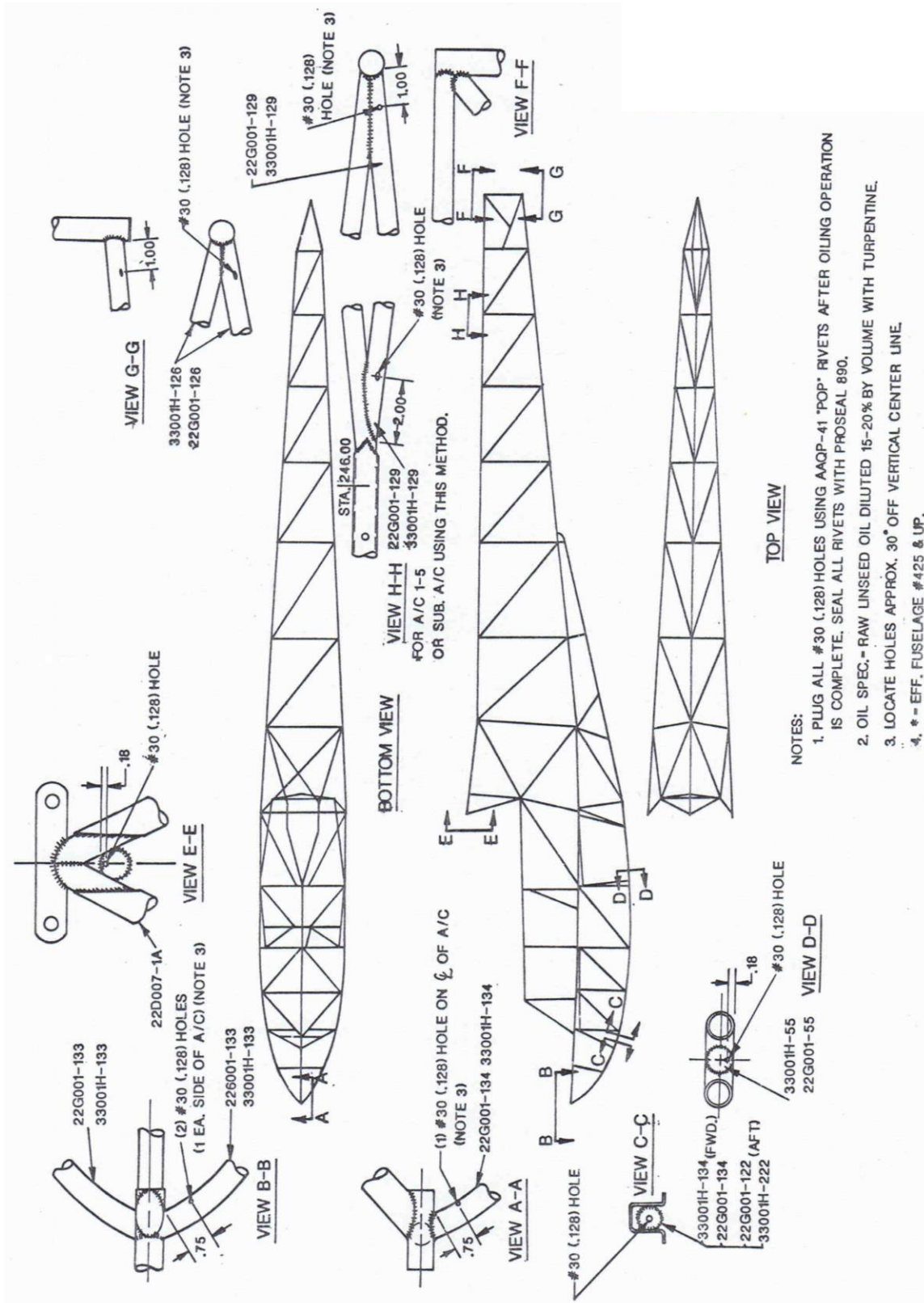


Figure 1 - Tube Dimension and Minimum Wall Thickness



NOTE: TO MEASURE WALL THICKNESS, USE A 1/2 INCH BALL MICROMETER AND A BALL END PIN. BE SURE TO FIRST MEASURE THE LENGTH OF THE PIN AND THEN SUBTRACT THAT LENGTH FROM THE MEASUREMENT OF THE PIN AND WALL THICKNESS.

Figure 2 - Measuring of Tube Wall Thickness



- NOTES:
1. PLUG ALL #30 (.128) HOLES USING AAQP-41 "POP" RIVETS AFTER OILING OPERATION IS COMPLETE. SEAL ALL RIVETS WITH PROSEAL 890.
 2. OIL SPEC. = RAW LINSEED OIL DILUTED 15-20% BY VOLUME WITH TURPENTINE.
 3. LOCATE HOLES APPROX. 30° OFF VERTICAL CENTER LINE
 4. * = EFF. FUSELAGE #425 & UP.

Figure 3 - Anti-Corrosion Treatment

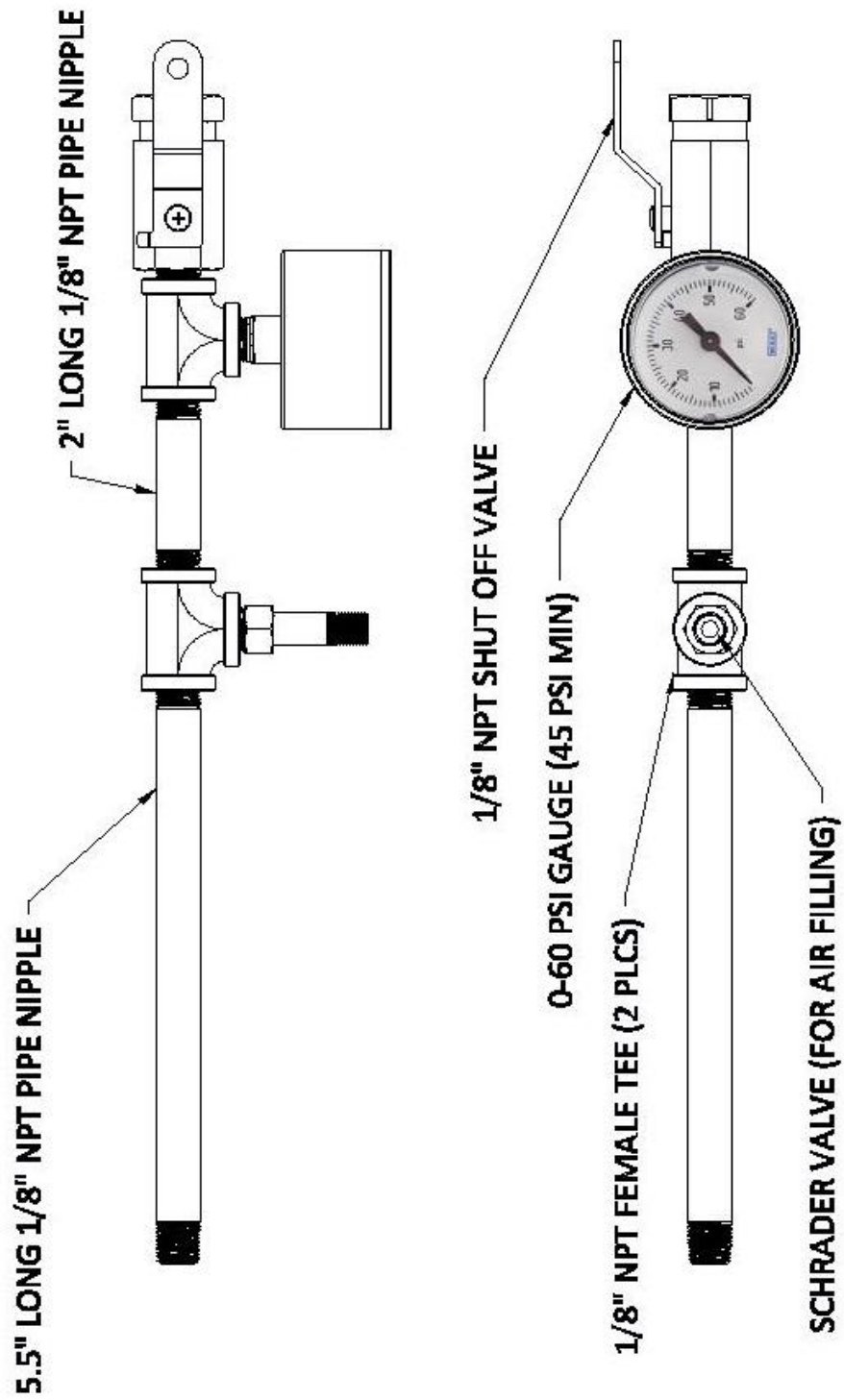


Figure 4 – Pressure Check Gauge

BULLETIN NO. SA-001.6*

DATE: Dec 29, 2009

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* Supercedes Service Bulletin
No. SA-001.5, Dated Oct 16, 2009

SUBJECT: ONE-TIME INSPECTION OF TOW RELEASE ASSEMBLY; DAILY INSPECTION OF TOW RELEASE ASSEMBLY; PILOT'S PREFLIGHT INSPECTION OF TOW RELEASE ASSEMBLY; 100 HOUR/ANNUAL INSPECTION OF TOW RELEASE ASSEMBLY.

AIRCRAFT AFFECTED: All the following Schweizer Sailplane Models
SGU 1-7
SGS 2-8 (TG-2)
SGS 2-12 (TG-3)
SGU 1-19
SGU 1-20
SGU 1-21
SGU 2-22, 2-22A, 2-22C, 2-22CK, 2-22E, 2-22EK
SGS 1-23, 1-23B, 1-23C, 1-23D, 1-23E, 1-23F, 1-23G, 1-23H, 1-23H15
SGS 1-24
SGS 1-26, 1-26A, 1-26B, 1-26C, 1-26D, 1-26E
SGS 2-32
SGS 2-33, 2-33A, 2-33AK
SGS 1-34, 1-34R
SGS 1-35C
SGS 1-36 (Sprite)

All Schweizer Sailplanes field retrofitted to incorporate a tow release assembly

TIME OF COMPLAANCE:

PART I: Shall be accomplished on a one-time basis within 30 days of issue date of this bulletin or at next 100 hour inspection, whichever occurs first (unless already accomplished in accordance with Part III of SA-001.4 or prior revision)

PART II: Shall be accomplished prior to the first flight of each day

PART III: Shall be accomplished at each Preflight inspection

PART IV: Shall be accomplished at each 100 hour/Annual inspection

BULLETIN NO. SA-001.6*

DATE: Dec 29, 2009

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REFERENCE: Schweizer Service Bulletin SA-005.1, 31 January 1988 AC 43.13-1A

OVERVIEW: The .5 revision is the same as the .4 revision except changes to Figures 1, 3, & 4. Figure 1 has changed to add View D to show improper engagement. Figure 3 has been changed to show proper release arm cutout. Figure 4 has been changed to show proper readings for the C.G. hook install.

PREFACE: Field reports indicate that it is possible for the tow hooks on the affected aircraft to release during towing operations without input from the sailplane pilot. Thorough analysis of this situation has allowed K & L Soaring, LLC (K & L) to attribute such incidents to (1) improper combinations of tow hooks and release arms, (2) improper installation of the tow hook into the release arm, or (3) excessive wear of the tow hook or release arm.

Parts I through IV of this Service Bulletin list instructions for a one-time inspection, a daily inspection, a Preflight inspection, and a 100 hour/Annual inspection of the tow release assemblies used on the affected aircraft. It should be noted that Part I of this bulletin need not be accomplished if Part III of Service Bulletin SA-001.(.) was previously accomplished. Any discrepancies observed while performing the inspection procedures listed in this bulletin requires the aircraft to be grounded until the situation is resolved.

In addition, since there is always the possibility of improper release of the tow hook, sailplane tow operations must always be performed where there is sufficient airfield available to accommodate such occurrences. Premature release of the tow hook from the release arm should not result in damage to the aircraft or injury of its occupants, if the recovery is executed properly.

PART I – ONE-TIME INSPECTION OF TOW RELEASE ASSEMBLY.

PROCEDURE

NOTE

Many different versions (Part Numbers) of tow hooks and release arms have been manufactured for Schweizer Sailplanes. However, as specified in Table 1 of this bulletin, only certain tow hooks/release arm combinations are compatible with each model sailplane. Unacceptable combinations must be replaced.

- a. Use Table 1 of this bulletin to determine if an acceptable tow hook and release arm are installed

TABLE 1 - ACCEPTABLE TOW HOOK / RELEASE ARM COMBINATIONS

Aircraft	Tow Hook	Standard Release Arm	Superseding/ Replacement Release Arm
SGU 1-7	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 2-8 (TG-2)	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 2-12 (TG-3)	R-200-9A or 1A218-1A or 1B-221-3	12B-141 or 1B-217-1A	1D-217-9
SGU 1-19	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGU 1-20	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGU 1-21	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGU 2-22 (All Models) (C.G. Hook)	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-23 (All Models)	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-24	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-26, A, B, C, & C.G. Hook	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-26 D, E	1A-218-1A or 1B-221-1	1D-222-7	1D-222-13
SGS 1-26 D & E (C.G. Hook)	1B-221-1	1D-222-1	1D-222-11
SGS 1-26E (opt.)	10232A-1	1B-217-5	1D-217-11
SGS 2-32	1B-221-1	1D-222-1	1D-222-11
SGS 2-33, 2-33A, 2-33AK (C.G. Hook)	1A-218-1A or 1B-221-3	1B-217-1A	1D-217-9
SGS 2-33, 2-33A, 2-33AK (opt.) (C.G. Hook)	10232A-1	1B-217-5	1D-217-11
SGS 1-34, 1-34R	1A-218-1A or 1B-221-1	34017D-1	34017D-11
SGS 1-35C	1A-218-1A or 1B-221-1	1D-222-7	1D-222-13
SGS 1-35C (opt.)	10232A-1	1B-217-5	1D-217-11
SGS 1-36	10232A-1	1B-217-5	1D-217-11

CAUTION

THE 10232A-1 TOW HOOK IS PHYSICALLY SMALLER THAN THE OTHER TOW HOOKS. FIELD RETROFIT TO THE 10232A-1 TOW HOOK REQUIRES INSTALLATION OF A 1B-217-11 ARM AT A LOCATION FURTHER FORWARD ON THE AIRCRAFT. BE SURE TO CONTACT K & L FOR INSTALLATION INSTRUCTIONS BEFORE FIELD RETROFITTING SAILPLANE TO INCORPORATE 10232A-1 TOW HOOK

- b. Replace tow hook and/or release arm as required to obtain an acceptable combination (as specified in Table 1) for sailplane in question.

NOTE

- Proper engagement of the tow hook into the release arm is shown in Figure 1, View A, and Figure 4. Excessive wear of the tow hook step could result in improper engagement. Figure 2 of this bulletin provides inspection data and wear limits for the tow hook. Tow hooks which do not meet the specified limits must either be reworked to obtain dimensions (as specified in Figure 2) or replaced.
 - If tow hooks is able to slide into the release arm, beyond the tow hook step, as shown by Figure 1, View C, the release arm must either be reworked with a slug as specified in Figure 3, or replaced.
- c. Inspect tow hook for wear in accordance with Figure 2 of this bulletin.

CAUTION

ALL AIRCRAFT REPAIRS AND REWORK MUST BE ACCOMPLISHED WITHIN THE GUIDELINES ESTABLISHED BY AC 43.13

- d. If tow hook dimensions are not within limits specified in Figure 2, either rework the tow hook to obtain dimensions (as specified in Figure 2) or replace it with a new or serviceable, used tow hook
- e. Engage tow hook into release arm. Ensure that the tow hook properly engages as shown in Figure 1, View A.
- f. If tow hook is unable to completely engage (shown by Figure 1, View B) shorten the rubber bumper stop between the release knob and the instrument panel to allow the release assembly to close further.

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- g. If tow hook is able to travel too far inboard as shown in Figure 1, View C, disengage tow hook from release arm and measure the length of the release arm slot
- h. If dimension is less than 0.66 inch, rework release arm by welding on 1B-217-19 slug at location shown in Figure 3. (Release arm may be replaced as an alternate to welding on slug)
- i. If length of release arm slot is greater than 0.66 inch, replace release arm.
- j. Perform a thorough inspection of the tow hook installation in accordance with the 100 hour inspection requirements listed in Table 2 of this bulletin.
- k. Repair or replace unserviceable component(s), as required
- l. Record compliance with Part I of this Service Bulletin in Aircraft Log Book.

PART II – DAILY INSPECTION OF TOW RELEASE ASSEMBLY.

PROCEDURE

NOTE

The following inspection does not require any disassembly of the aircraft or release assembly. However, if any defects are noted during inspection, the problem(s) must be resolved prior to next flight.

- a. Perform a thorough visual inspection of the tow release assembly and associated components in accordance with the daily inspection requirements listed in Table 2 of this bulletin.

CAUTION

ALL AIRCRAFT REPAIR AND REWORK MUST BE ACCOMPLISHED WITHIN GUIDELINES SPECIFIED IN AC43.13.

- b. If any defects are noted, repair or replace faulty components prior to next flight.

TABLE 2 – DAILY, 100-HOUR, & ANNUAL INSPECTION

	Daily	100 Hour	Annual
Visually inspect release arm for damage, cracks, deformation, and freedom of movement on pivot bolt.	X	X	X
Visually and physically inspect release arm slot for excessive wear which would allow the tow hook to engage beyond hook step. (See Figure 1, Item C.)	X	X	X
Dimensionally measure the slot in the release arm to insure that it is within tolerance as shown on Figure 3.			X
Visually check tow hook for damage, cracks, deformation, and freedom of movement on pivot bolt.	X	X	X
Visually check tow hook to insure that surface "x" and "y" of step shown in Figure 2 are flat, smooth, and properly engages release arm.	X	X	X
Dimensionally check tow hook to insure all dimensions are within tolerances in accordance with Figure 2 and for elongation of attach holes in accordance with Figure 4.			X
Inspect release damper for general condition and proper engagement of tow hook.	X	X	X
Perform operational check per Part III.	X	X	X
Perform a release check for proper release tension in accordance with Figure 4.			X
Lubricate attach hardware for tow hook and release arm.		X	X
Lubricate guide-tubes in release control with dry stick type lubricant.		X	X
Insure that tow hook moves freely on pivot bolt.	X	X	X

PART III – PREFLIGHT INSPECTION OF TOW RELEASE ASSEMBLY.

PROCEDURE

NOTE

- Figure 1 shows the proper attachment of the tow hook into the release arm. Note that the step of the tow hook should seat against the release arm. The tow hook step must fully engage the release arm to allow the release assembly to function properly. The tow hook must not be allowed to extend through the release arm beyond the step on the hook as shown in Figure 1, View C.
 - The tow rope must not be allowed to wrap around the release arm or any part of the sailplane. It must extend, unobstructed, directly forward from the sailplane to the tow vehicle.
- a. Attach tow line to tow hook and apply tension on line in direction of tow.
 - b. With tension on tow line, pull the release control on the instrument panel and check for proper release of tow line.
 - c. If tow line does not release properly, troubleshoot tow release assembly and perform necessary repairs.
 - d. Reattach tow lines to tow hook and check for retention of tow line as follows.
 - 1) Apply a moderate tug on the tow line in the direction of tow.
 - 2) Inspect the release assembly to ensure that it has remained completely closed.
 - 3) If the release assembly has opened, even partially, ground aircraft and troubleshoot release assembly. Repair or replace faulty component (s) as required.

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PART IV – 100 HOUR/ANNUAL INSPECTION OF TOW RELEASE ASSEMBLY

PROCEDURE

- a. Perform a thorough inspection of tow release assembly in accordance with 100 hour/annual inspection requirements listed in Table 2.

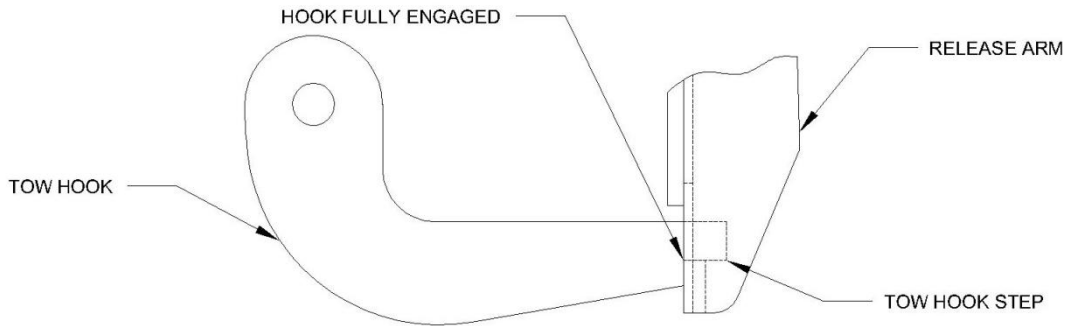
CAUTION

ALL AIRCRAFT REPAIRS MUST BE PERFORMED IN ACCORDANCE WITH AC43.13

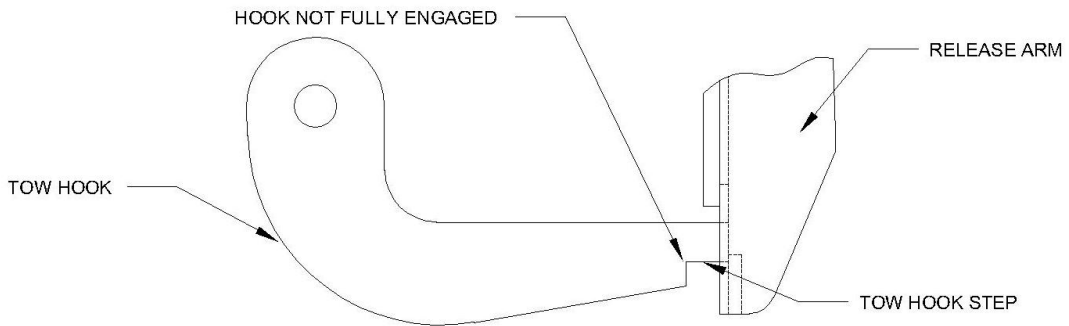
- b. If defects are noted, repair or replace faulty component (s).
- c. Record compliance with Part IV of this Service Bulletin in Aircraft Log Book

WEIGHT & BALANCE DATA

Weight & Balance not affected.



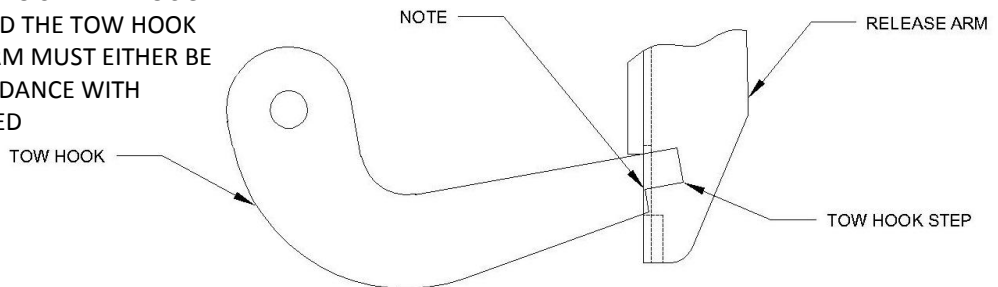
VIEW A – PROPER ENGAGEMENT



VIEW B – IMPROPER ENGAGEMENT

NOTE:

IF TOW HOOK IS ABLE TO SLIDE THROUGH RELEASE ARM, BEYOND THE TOW HOOK STEP, THE RELEASE ARM MUST EITHER BE REWORKED IN ACCORDANCE WITH FIGURE 3, OR REPLACED



VIEW C – IMPROPER ENGAGEMENT

FIGURE 1 – ENGAGEMENT OF TOW HOOK INTO RELEASE ARM

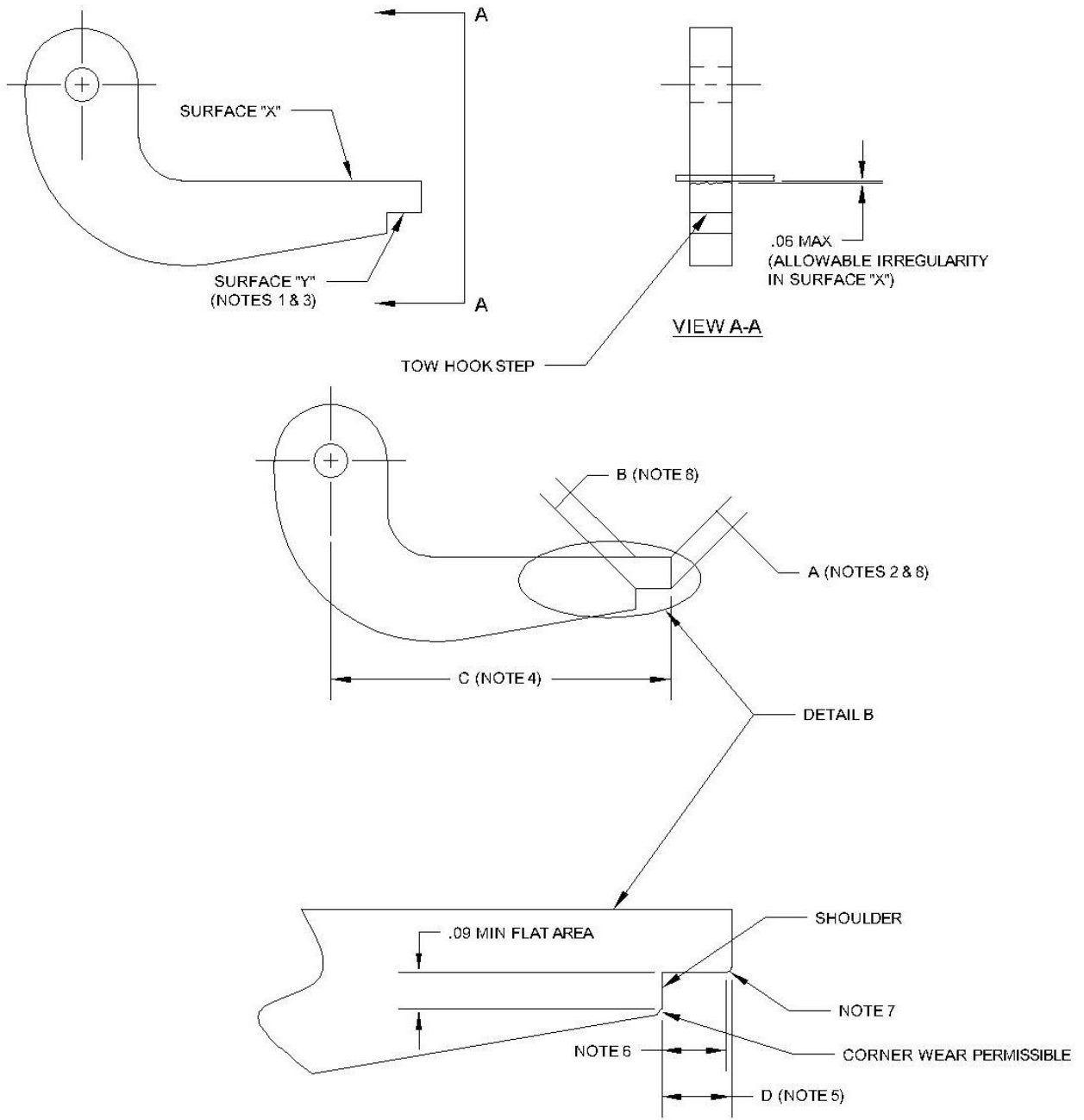


FIGURE 2 – TOW HOOK INSPECTION AND REWORK (SHEET 1 OF 2)

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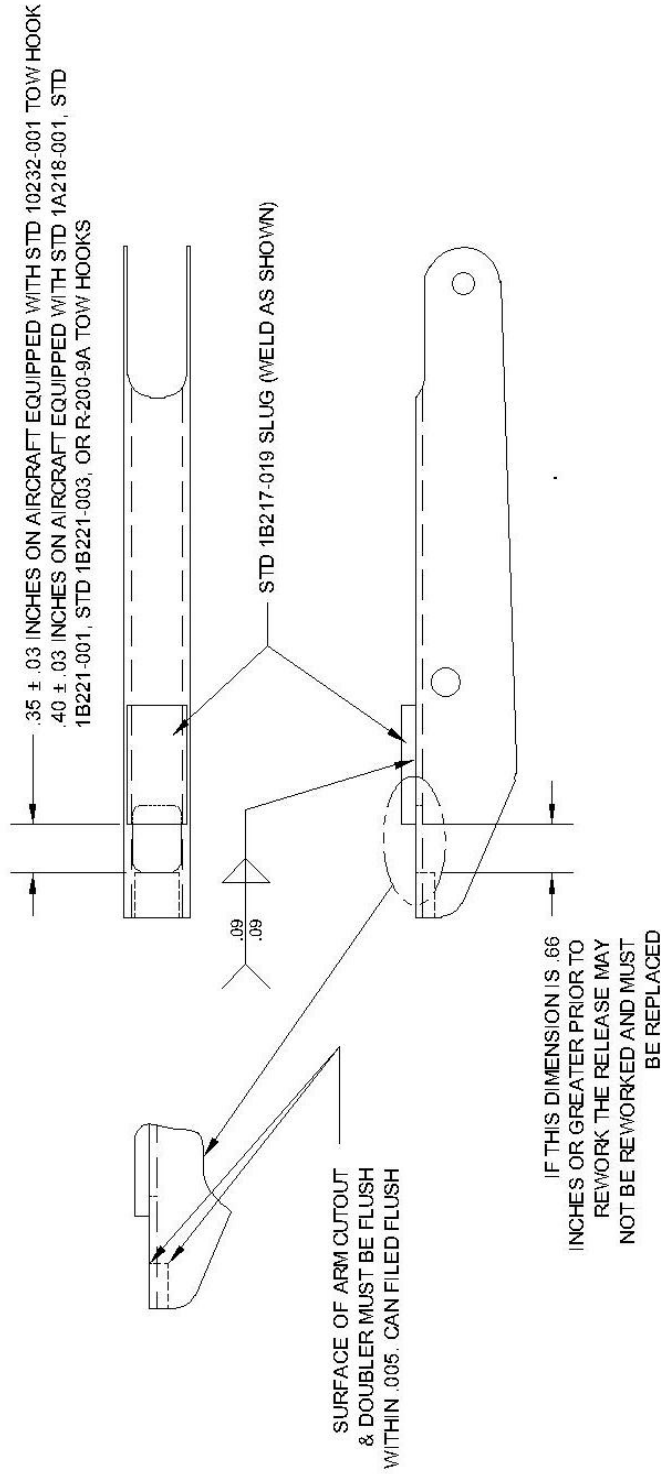
NOTES:

1. IF WEAR OCCURS ON SURFACE "Y" IT MUST BE POLISHED FLAT WITHIN TOLERANCES PROVIDED IN FIGURE 2 (SHEET 1). IF THE HOOK CANNOT MEET THESE REQUIRED DIMENSIONS IT MUST BE REPLACED. UNDER NO CONDITIONS SHOULD SURFACE "X" BE POLISHED OR MACHINED TO CHANGE ITS ANGLE.
2. DIMENSION "A" ON STD 10232-001 HOOK SHALL BE .21 INCHES MIN. & .28 INCHES MAX. DIMENSION "A" ON STD 1A218-1A, STD 1B221-3, & R-200-9A HOOKS SHALL BE .25 INCHES MIN. & .31 INCHES MAX.
3. SURFACE "Y" MUST REMAIN FLAT, SMOOTH, AND WITHIN TOLERANCES SHOWN ON SHEET 1. (SEE ILLUSTRATION).
4. DIMENSION "C" ON STD 10232-001 HOOK SHALL BE $2.06 \pm .03$ INCHES. DIMENSION "C" ON STD 1A218-1A, STD 1B221-3, & R-200-9A SHALL BE $3.00 \pm .03$ INCHES.
5. DIMENSION "D" ON STD 10232-001 HOOK SHALL BE $.25 \pm .03$ INCHES. DIMENSION "D" ON STD 1A218-1A, STD 1B221-3, & R-200-9A SHALL BE $.31 \pm .03$ INCHES.
6. HOOK MUST REMAIN FLAT IN THIS AREA FOR A MIN. OF .21 INCHES FROM SHOULDER OF HOOK.
7. WEAR OUTSIDE OF THE .21 MIN. FLAT AREA IS PERMISSABLE.
8. DIMENSION "B" MUST BE EQUAL TO DIMENSION "A", OR LESS THAN DIMENSION "A" BY NO MORE THAN .015 INCHES AND CANNOT BE GREATER THAN DIMENSION "A".
9. ALL SURFACES EXCEPT SURFACE "X" MAY BE FILLED TO OBTAIN REQUIRED DIMENSIONS.

FIGURE 2 – TOW HOOK INSPECTION AND REWORK (SHEET 2 OF 2)

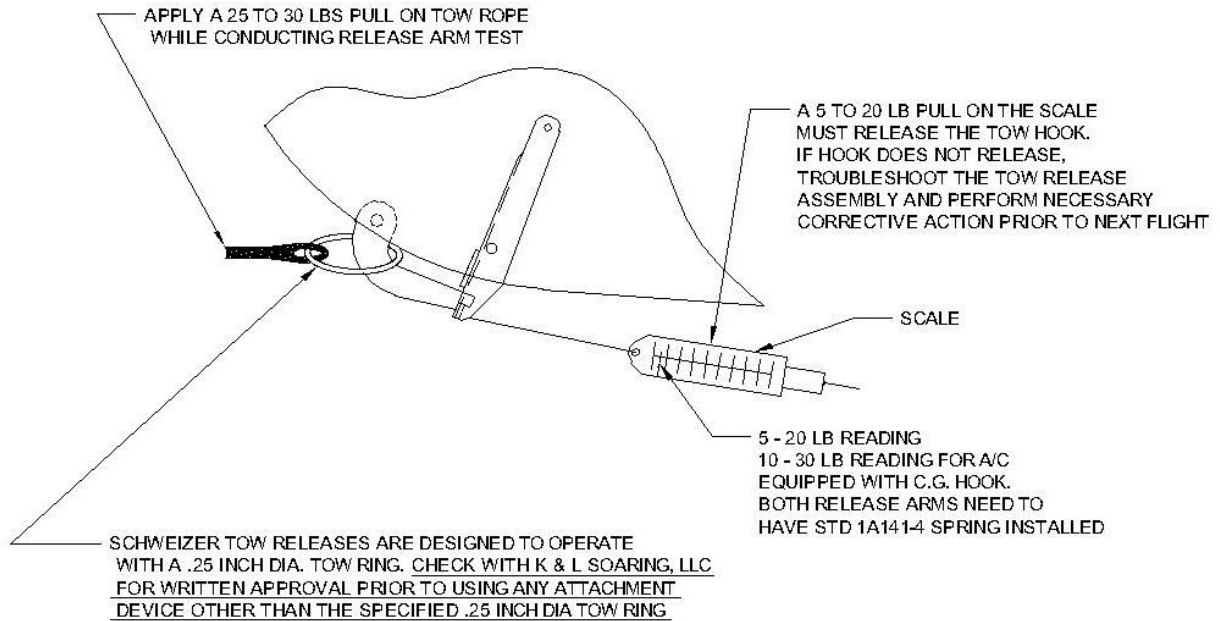
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**NOTE: STD 1B217-019 SLUG IS AVAILABLE FROM K & L SOARING, LLC
 0.125 X 0.5 X 1.0 4130N STEEL**



NOTE: ALL TOW RELEASE ARMS MUST BE REWORKED AS SHOWN ABOVE OR REPLACED WITH THE PROPER SUPERSEDING ARM AS SPECIFIED IN TABLE 1

FIGURE 3 - REWORK OF RELEASE ARM



NOTE: IF RELEASE LOADS ARE TOO HIGH WITH C.G. SYSTEM IT IS PERMISSIBLE TO ADD A LINK TO SHORTEN STD 1A141-2 SPRING. LINK SHOULD BE MADE AS SHOWN BELOW. IF REQUIRED THEY SHOULD BE ADDED TO BOTH RELEASE ARMS TO BALANCE BOTH RELEASE SPRINGS

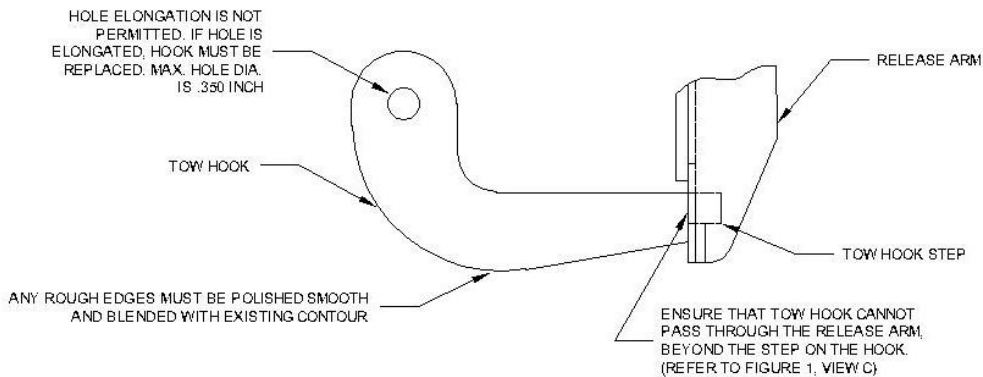
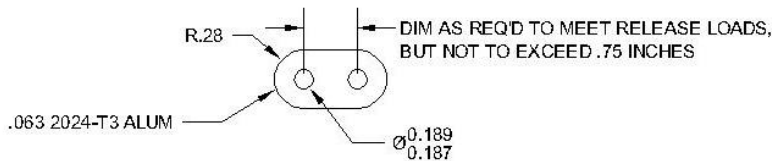


FIGURE 4 - PULL TEST OF TOW RELEASE ASSEMBLY

SERVICE BULLETIN SA-003

DATE: 25 March 1987

PAGE 1 of 2

SUBJECT: AEROBATICS IN SCHWEIZER SAILPLANE MODELS LISTED BELOW.

MODELS AFFECTED: SGU 1-7
SGS 2-8 (TG2)
SGS 2-12 (TG3)
SGU 1-19
SGU 1-20
SGU 1-21
SGU 2-22, 2-22A, 2-22C, 2-22CK, 2-22E, 2-22EK
SGS 1-23, 1-23B, 1-23C, 1-23D, 1-23E, 1-23F, 1-23G, 1-23H,
1-23H15
SGS 1-24
SGS 1-26, 1-26A, 1-26B, 1-26C, 1-26D, 1-26E
SGS 2-32
SGS 2-33, 2-33A, 2-33AK
SGS 1-34, 1-34R
SGS 1-35, 1-35A, 1-35C
SGS 1-36 (Sprite)

NOTE

In the text of this writing, the terms "GLIDER"
and "SAILPLANE" are to be considered synonymous.

REFERENCE: 2-32 Flight-Erection-Maintenance Manual Page 1-10
2-22 Flight-Erection-Maintenance Manual Page 5
2-33 Flight-Erection-Maintenance Manual Pages 1-5
1-26 Flight-Erection-Maintenance Manual Page 5
1-34 Flight-Erection-Maintenance Manual Pages 1-7
1-36 "Sprite" Pilot's Operating Manual Page 23

DATE: 25 March 1987

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NOTE

For the purposes of this Service Bulletin, aerobatic flight means an intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight. (Refer to FAR 91.71 for further information.)

PREFACE: Schweizer Aircraft Corporation DOES NOT APPROVE OR RECOMMEND that aerobatics of any kind be performed in any of the Schweizer sailplane models affected by this Service Bulletin, despite any language to the contrary in any of the Flight-Erection and Maintenance Manuals or Pilot's Operating Manual referenced herein.

Although there is language in the referenced publications that various levels of aerobatics are permitted, Schweizer Aircraft Corporation RECOMMENDS that NO TYPE of aerobatics be performed in these model sailplanes since in doing so, the structural design levels of the sailplane could be exceeded, which may result in serious personal injury to the occupants of the aircraft.

The only exception to this recommendation is spins when performed within the guidelines of, and as approved in, the Flight Manual or Pilot's Operating Handbook for the aircraft being operated. However, before performing spins in the aircraft, each pilot must receive complete instructions and training as to the proper execution of this maneuver, as well as the characteristics of the aircraft during the spin and recovery therefrom.

Schweizer Aircraft Corp.
Post Office Box 147
Elmira, New York 14902

SERVICE

BULLETIN

SERVICE BULLETIN SA-005.1*

DATE: 31 January 1988

PAGE 1 of 3

* Superseded Service Bulletin
NO. SA-005, Dated 1 June 1987

SUBJECT: IDENTIFICATION AND POSSIBLE REPLACEMENT OF TOW RELEASE ARM.

MODELS AFFECTED: ● All the following Schweizer manufactured and kit built Schweizer gliders and sailplane models.

- SGU 1-7
 - SGS 2-8 (TG-2)
 - SGS 2-12 (TG-3)
 - SGU 1-19
 - SGU 1-20
 - SGU 1-21
 - SGU 2-22, 2-22A, 2-22C, 2-22CK, 2-22E, 2-22EK
 - SGS 1-23, 1-23B, 1-23C, 1-23D, 1-23E, 1-23F, 1-23G, 1-23H, 1-23H15
 - SGS 1-24
 - SGS 1-26, 1-26A, 1-26B, 1-26C, 1-26D, 1-26E
 - SGS 2-32
 - SGS 2-33
 - SGS 2-33, 2-33A, 2-33AK
 - SGS 1-34, 1-34R
 - SGS 1-35C
 - SGS 1-36 (Sprite)
- All Schweizer Sailplanes field retrofitted to incorporate a tow hook installation

TIME OF COMPLIANCE: Shall be accomplished on affected aircraft prior to next auto or winch tow, or within 60 days of issue date of this bulletin, whichever occurs first.

PREFACE: Reports indicate that part number 1D217-13, 1D222-15, 1D222-17, and 34017D-15 tow release arms may fail to properly disengage the tow hook from the sailplane during tow operations. The possibility of this incident occurring greatly increases during auto and winch tow operations or during an overrun of the tow line. This Service Bulletin requires the replacement of the above mentioned release arms with new or serviceable, used release arms (part numbers specified within procedure).

DATE: 31 January 1988

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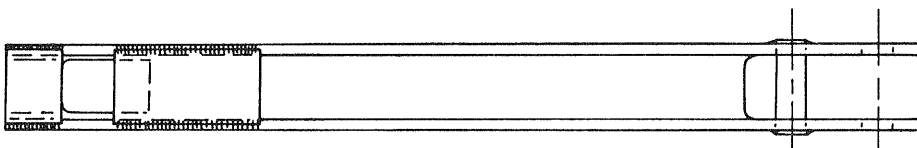
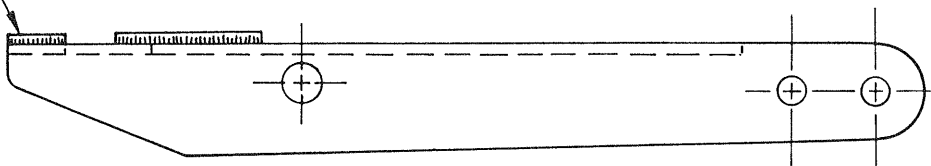
PROCEDURE

- a. Visually check release arms on the affected aircraft for the presence of a lug welded to the front of the arm, below tow hook slot. (Refer to Figure 1.)

NOTE

- The suspect release arms (PN's 1D217-13, 1D222-15, 1D222-17, and 34017-15) may be identified by the presence of a lug welded on the front of the arm, below the tow hook slot. (Refer to Figure 1.)
 - Replace suspect release arms as follows:
 - (1) Replace 1D217-13 arm with 1D217-9 arm,
 - (2) Replace 1D222-15 arm with 1D222-11 arm,
 - (3) Replace 1D222-17 arm with 1D222-13 arm,
 - (4) Replace 34017D-15 arm with 34017D-11 arm.
- b. Remove and replace all suspect release arms (arms which incorporate lug welded to front, below tow hook slot) with acceptable replacement arm as specified in preceding NOTE.
 - c. Return suspect release arms to Schweizer Aircraft Corp. within 90 days of issue date of this bulletin for free warranty replacement. Contact Sailplane Product Support Department for exchange information.
 - d. Upon replacement of release arm, perform an operations check and maintain periodic and preflight inspections in accordance with the procedures outlined in Schweizer Bulletin SA-006.
 - e. Record Compliance with this Service Bulletin in aircraft log book.

ANY RELEASE ARM WITH THIS LUG WELDED ON FRONT SURFACE AS SHOWN MUST BE REPLACED.



RELEASE ARMS WITH THIS LUG WELDED ON THE INSIDE AS SHOWN ARE NOT AFFECTED BY THIS BULLETIN.

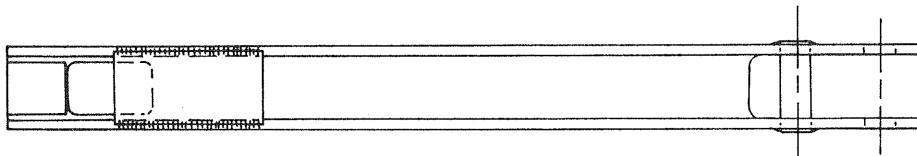
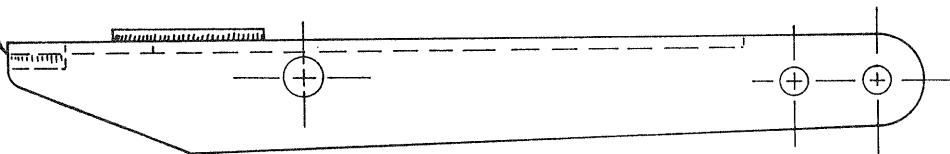


FIGURE 1. RELEASE ARM

Schweizer Aircraft Corp.
P. O. Box 147
Elmira, New York 14902

January 15, 1968

SERVICE LETTER

SERVICE LETTER NO.: SL-102-3

SUBJECT: Fire Potential of Fabric Covered Aircraft

MODELS AFFECTED SGU 2-22 & SGS 2-33 having C.G. Tow Release Installation

(1) A report was received recently of a 2-33 glider which caught fire after completion of landing. The fire burned the entire fabric covering from the aircraft

From the owner's report, they believe the cause of the fire was due to excessive generation of heat in the nose skid shoe, during the landing roll. The heat buildup was apparently enough to ignite the doped fabric fairing covering the gap between the skid and lower fuselage surface.

This is the only case of fire resulting from skid friction that we know of in our 38 years experience in gliding. However, since it did happen, we feel it is our responsibility to distribute the information, and suggest a way to lessen the possibility of repetition.

Since this has never happened before, it seems that the two factors which could cause the skid to heat up enough to start a fabric fire was (A) The prolonged skid contact during a long downwind landing roll, and, (B) To the fact that the landing was made on a very smooth dry lake bed.

The ship involved in the above incident was equipped with Center of Gravity (C.G.) Tow Hook. On this installation, the gap between the nose skid and the fuselage was filled with ensolite blocks. These blocks are, in turn, covered with a doped fabric fairing on each side of the skid. This fabric fairing would appear to be the point where ignition could occur if the skid was overheated, so we assume that a fire from this source could only happen on ships with a covered skid.

RECOMMENDATIONS:

(1) On 2-33 with C.G. Hook, remove the fabric fairing from both sides between the nose skid and the bottom of the fuselage. The "Ensolite" blocks thus exposed, may be bonded in place using a good commercial-type waterproof adhesive. The edges of the blocks can then be painted to match the finish or trim on the fuselage.

(2) Refrain from doing prolonged downwind landings or take-offs, on surfaces that will cause heat buildup. If you must operate from pavement or hard surface runways, we recommend adding a heavy steel plate at the area of the skid that touches the ground. The heavier steel will dissipate the heat better. Also, an asbestos fabric strip between the steel shoe and the wooden skid should be of help.

(3) While on the subject of fire possibilities, we feel it appropriate to caution against smoking in fabric covered aircraft. The possible consequences for doing this requires the sober reflection of each glider pilot.

ADDITIONAL NOTE: The student in the front seat experienced some difficulty in getting out and had to be helped by the instructor. The student was wearing a parachute and the seat belt adjustment buckles apparently caught on the parachute harness. We have tried to duplicate this situation in different combinations of pilots and positions in adjustment, but have not been able to do so. Since this seems to be an isolated case, and since it is not general practice to use parachutes in this aircraft, no action is taken on this at this time.

SCHWEIZER AIRCRAFT CORP.